

REMARKS/ARGUMENTS

Reconsideration is respectfully requested of the Official Action of December 1, 2004, relating to the above-identified application.

The specification has been amended to insert the correct patent number at page 1, line 10.

With regard to the objection to the disclosure, the Abstract was presented with the Preliminary Amendment and does indeed present a single complete paragraph, interrupted by the formula for the azo compounds. There is no other way to present this and, therefore, consideration is requested of the objection to the Abstract.

The Preliminary Amendment did contain a discussion of the drawings on page 2 and attention is invited thereto.

The rejection of Claims 1-20 under 35 U.S.C. § 112 (second paragraph) for lack of antecedent basis is traversed and reconsideration is requested in view of the foregoing amendments which address the issues raised in the Official Action on pages 3 and 4. The high shear mixture known as "Ultra Turrax" has been inserted into Claim 16. A copy of a commercial brochure describing this high shear mixture will be filed as soon as a copy is available.

In view of the foregoing, applicants request reconsideration of the rejection under 35 U.S.C. § 112.

The claims in the case are 1-8, 10 and 12-21. New Claim 21 defines the amount of wetting agent and is supported by the disclosure at page 11, line 33 and page 12, line 1.

The indication by the Examiner that Claims 11, 14 and 20 would be allowable if rewritten in independent form is noted with appreciation. The feature of Claims 9 and 11 has been inserted into Claim 7 and, therefore, it is believed that Claim 7 has been placed in condition for

allowance. Dependent Claims 8, 10, 12-21 are now all dependent on Claim 7 and accordingly, applicants believe that these claims are now also in condition for allowance.

The rejection of Claims 1 and 3-6 under 35 U.S.C. § 102(b) as anticipated by the European Patent Application No. 0 724 968 is traversed and reconsideration is respectfully requested.

The Official Action summarizes the cited European patent reference as describing a pigment-dye combination ink formed by mixing a pigment ink containing a carbon black dispersion with a water soluble dye ink B. The Official Action states that “the carbon black is believed to meet applicants’ limitation of a gas black.” Applicants advise that the gas black shown in the reference is not a gas black coming within the definition of the claims in the instant application. The Official Action refers to pages 7 and 8 of the document and applicants call attention to the carbon black identified as “Mogul L”, a trademark material available from the Cabot Corporation. This material is not a gas black. The disclosure on page 4, beginning on line 25 of the reference indicates that the carbon black is a furnace black or a channel black. In the carbon black industry, there is a distinction made between the types of carbon blacks and the manner in which they are produced. A gas black is not the same as a furnace black or a channel black. Enclosed herewith is a copy of literature from Cabot Corporation which identifies the Mogul L as a furnace black.

The example on page 7 of the European patent document discloses a carbon black dispersion which contains 40 parts by weight of a wetting agent which is a styrene-methacrylic acid ethyl acrylate. Solid content is 20% as shown in the table on page 7 of the reference. The calculated content of the wetting agent is 3.89 parts in the black pigment ink. This value is obtained by summing up the quantities of substances in the table on page 7 of the reference:

$40+12+15+0.5+3+135=205.5$. The percentage of wetting agent is $\frac{(40 \times 20)}{205.5} = 3.89\%$. The black pigment ink and the dye ink are mixed in the weight ratio of 12:88 as described on page 8, lines 43-45. The lowest amount of wetting agent in the mixture is reached with the ratio of 12:88; see page 8, line 50 of the cited reference. When the pigment ink is mixed with the water soluble dye ink, the amount of wetting agent is 0.47%. Since the carbon black in the European reference is not a gas black, the European reference fails to anticipate the subject matter of Claims 1 and 3-6.

The rejection of Claim 2, as allegedly obvious (35 U.S.C. § 103), in view of the European document, is also traversed and reconsideration is respectfully requested.

With regard to the allegation in the Official Action that a person skilled in the art would be lead to substitute any gas black for the carbon black produced by the furnace process or the channel process, applicants would respectfully disagree and note that there is no teaching or allegation that any other type of carbon black would be suitable. There is no motivation to select a gas black from among the many types of carbon blacks that are available, nor would there be any predictability as to success.

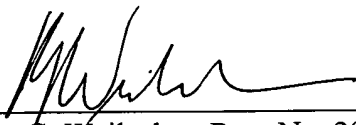
Consequently, applicants respectfully submit that there is lacking a motivation in the European document whereby a person skilled in the art would be lead to modify the subject matter thereof in order to arrive at applicants' invention.

For reasons set forth herein, applicants respectfully submit that the rejection fails to establish *prima facie* obviousness and should be withdrawn.

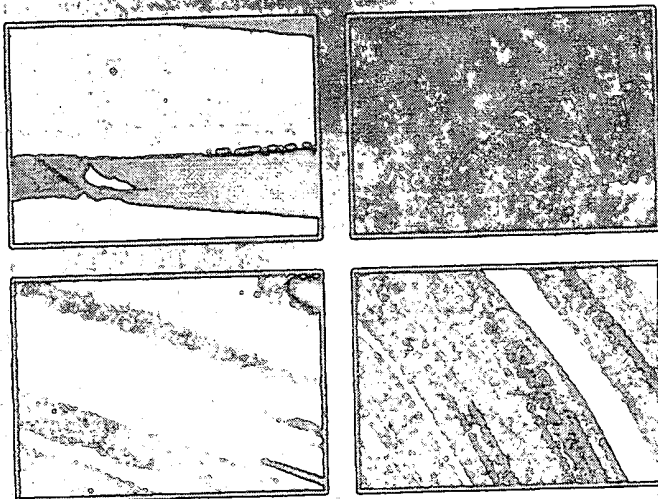
Favorable action at the Examiner's earliest convenience is respectfully requested.

Respectfully submitted,

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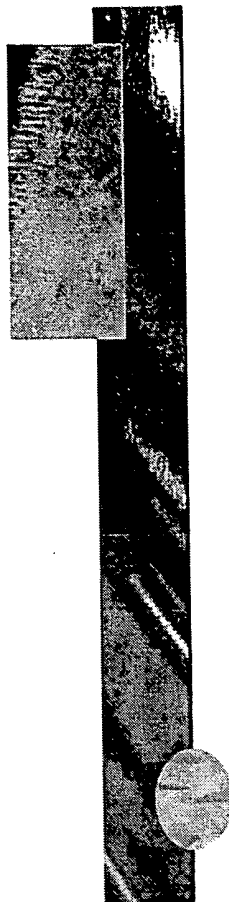
Pigment Blacks Selection Guide for Printing Ink Applications

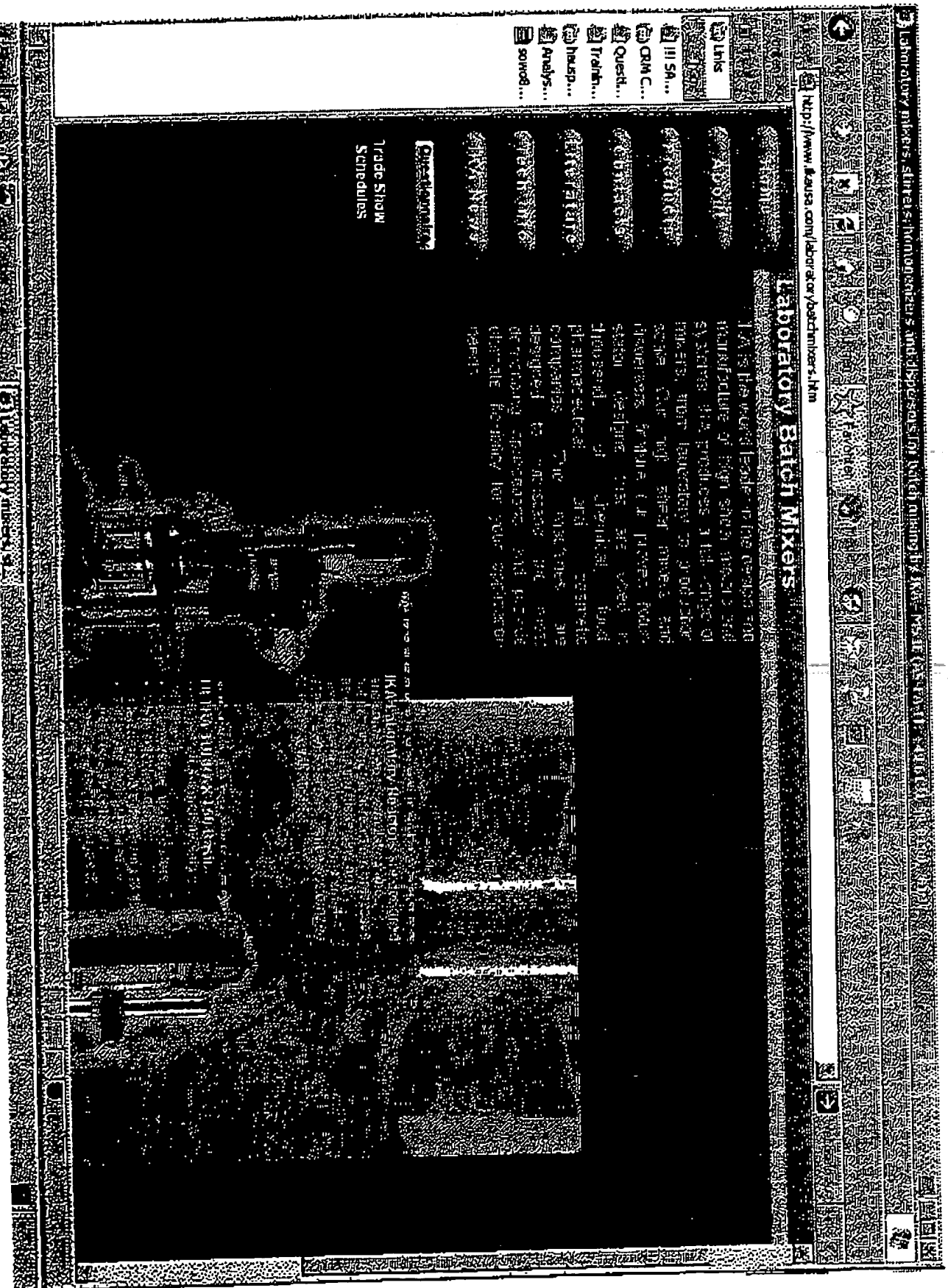
Packaging applications

Within this application of printing, great variation in both substrate type and quality is encountered. Therefore pigment blacks in both oxidised and non-oxidised form are required to fully optimise this extremely varied section of the printing inks market. Packaging inks are produced in both aqueous and solvent form. For aqueous inks the required levels of jetness and dispersion are generally achieved with pigment blacks of relatively high surface area ($>85\text{m}^2/\text{g}$) and high structure ($>114\text{cm}^3/100\text{g}$). These types of pigment black perform particularly well as a majority of aqueous inks are printed on the more absorbent uncoated papers.

Many packaging applications print on foil or non-absorbent stocks, and it is clear the requirements for pigment black are very different. The need for low viscosity and high fluidity dictates a low structure pigment black. This also helps the need for high gloss. The properties of blue tone and good dispersion can be accommodated by either choosing blacks from the low surface area end of the low structure range or by employing aftertreated grades which minimise viscosity and maximise flow at a given pigment black loading.

MOGUL® L BLACK PEARLS L	Oxidised furnace black with excellent flow, gloss and strength in high quality inks. Particularly suitable for NC and polyamide-based inks
REGAL 400/400R	Oxidised furnace black with excellent flow and gloss providing superior dispersion with good stability
REGAL 250/250R	Low viscosity with excellent flow properties in flexographic applications – high loading possible. Excellent gloss and strong blue tone
ELFTEX 490 MONARCH 490 MONARCH 480	Series of pigment blacks with varying DBP values at essentially equal surface areas. Well suited for use in water-based flexographic inks
ELFTEX 570 ELFTEX 460	Medium structure black, suitable for a broad field of liquid ink applications
ELFTEX 430 MONARCH 430	Lower structure black, providing good rub resistance and flow properties
ELFTEX 320/325	Low viscosity with excellent flow properties: high loading possible. Excellent gloss and blue tone. Particularly suitable for NC and polyamide-based inks
ELFTEX 220/225	Low viscosity with excellent flow properties. Coarser particle size than ELFTEX® 320/325, providing good dispersion, strong blue tone and high gloss. Particularly suitable for NC and polyamide-based inks
ELFTEX 410/415	Provides superior dispersability, with high jetness and exceptional gloss. Well suited for use in PVC copolymerisates





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